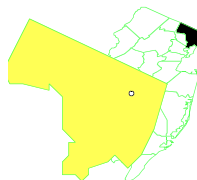


MAYWOOD CHEMICAL COMPANY NEW JERSEY

EPA ID# NJD980529762



EPA REGION 2
CONGRESSIONAL DIST. 5,9
Bergen County
Maywood, Lodi, Rochelle Park

Other Names:
Maywood Interim Storage Site
Stepan Chemical

Site Description

The Maywood Chemical Company site consists of three connected areas: the Stepan property, the Sears and adjacent properties, and the Maywood Interim Storage Site (MISS), owned by the federal government. The Site also includes certain vicinity residential and commercial properties. The Site is located in a highly developed commercial and residential area that includes portions of the Borough of Maywood, Lodi, and Rochelle Park.

From 1916 through 1955, Maywood Chemical Company processed radioactive thorium ore. The residues or tailings from the process operation, clay-like dirt, contained significant quantities of low-level radioactive materials. In addition, other processing operations generated various other types of waste products (such as lanthanum, lithium compounds, detergents, alkaloids, essential oils and products from tea and cocoa leaves). Maywood Chemical Company pumped process wastes to diked areas west of the plant. In 1932, State Route 17 was built through the disposal area. Process wastes migrated onto adjacent properties in Rochelle Park. Some of the waste materials were excavated and used as fill dirt and mulch for nearby properties in Maywood and Lodi. Waste materials were also transported via the old Lodi Brook stream channel (later replaced by a storm water drain system). The result was chemical and radioactive contamination over much of the local area. Maywood Chemical Company was bought by Stepan Chemical Company (later Stepan Company) in 1959. Stepan Company is currently owner/operator of a portion of the original Maywood Chemical Company property. Many of Maywood Chemical Company's operations were discontinued in the 1960s. Stepan Company currently focuses on the production of specialty chemicals.

Between 1963 and 1968 Stepan Company undertook several onsite remedial actions. Contaminated material from west of Rte. 17 and onsite building rubble and debris were buried onsite (with the knowledge of the Atomic Energy Commission - predecessor to the Nuclear Regulatory Commission and Department of Energy). Subsequent to these actions, areas adjacent to Stepan Company were thought to be clean. However, in 1980, radiological contamination was accidentally discovered by an area resident on property formerly owned by Stepan Chemical Co. From 1980 to 1983, radiological testing by the State, EPA, and DOE, revealed extensive low-level contamination at several locations. These studies were the basis for the Site being included on the National Priorities List in 1983. From 1984 through 1986, DOE, acting under its authority through the 1984 Energy and Water Appropriations Act (PL 98-50) which specifically addressed the Maywood Site, investigated and removed over 35,000 cubic yards of soil and debris from the Ballod commercial property (the former location of diked disposal areas west of Rte. 17) and 25 residential properties in Maywood, Lodi, and Rochelle Park. This material was stockpiled and secured at the MISS (owned by the

federal government and located on 11.7 acres of land that was previously owned by Stepan Company).

In 1986, in conjunction with DOE's radiological characterization of the Sears and adjacent properties, EPA performed a preliminary study of chemical, non-radioactive pollutants. EPA's study indicated the presence of elevated concentrations of volatile organics (VOCs), semi-volatile organics (SVOCs), metals, pesticides, and other hazardous substances. In late 1987 through spring 1988, still in conjunction with DOE's studies and investigations, EPA collected split samples of soil and ground water on the Stepan Company property. The data indicated the presence of radiological in the soil and non-radiological contaminants in the soil and groundwater.

The Energy and Water Development Appropriations Act of 1998 (PL 105-62) provided appropriations for the U.S. Army Corps of Engineers (USACE) to administer and execute the DOE's "Formerly Utilized Sites Remedial Action Program" (FUSRAP). The purpose of the FUSRAP program was to cleanup contaminated sites where work was performed as part of the Nation's early atomic energy program. Because environmental concerns at the Maywood site were similar to those of FUSRAP sites, DOE had assigned the Maywood site to FUSRAP. Responsibility for cleanup of the Maywood site transferred from DOE to the USACE in October, 1997.

Site Responsibility: This site is being addressed through Federal (USACE) and potentially responsible party (Stepan Co.) actions, with EPA oversight.

NPL LISTING HISTORY

Proposed Date: 12/01/82

Final Date: 09/01/83

Threats and Contaminants



Ground water at the Maywood Site has been contaminated with elevated concentrations of volatile organic compounds (VOCs). Soil on various parts of the site is contaminated with radioactive wastes (primarily thorium), as well as VOCs, SVOCs, and metals. Drinking or otherwise coming into contact with contaminated ground water, inhaling contaminated dust, or ingesting contaminated soil are concerns being evaluated by EPA.

Cleanup Approach

1. The USACE, under its FUSRAP program, will remediate that portion of the Maywood Chemical Company Site which is contaminated with radiological material above site-specific risk based action levels. The USACE is also responsible for all contamination (radiological and non-radiological) at the MISS. Through an Interagency Agreement entered into by EPA and DOE (September, 1990), EPA is overseeing the USACE's remedial investigation/feasibility study (RI/FS)

and will oversee any remedial actions.

2. Stepan Company, acting as PRP (it presented a good faith offer to EPA in early 1987), is performing the RI/FS of non-radiological, chemical contamination at the Maywood Chemical Company Site (Stepan Company property and Sears and adjacent commercial properties - not the MISS) under EPA oversight. The Stepan Company RI/FS is being conducted through two different legal vehicles: (1) on the Sears and adjacent commercial properties the RI/FS is being conducted in accordance with an Administrative Order on Consent entered into in September, 1987, and (2) on the Stepan Company property the RI/FS is being conducted in accordance with an Unilateral Administrative Order which was signed in May, 1991.

Response Action Status



Removal Actions: DOE started removing contaminated soil from affected residential properties beginning in 1984. These materials were stored at the MISS. In 1985, contaminated materials were excavated from the Ballod property and removed to the MISS. Additional cleanup efforts continued, through 1986, as other contaminated properties were identified. These efforts were discontinued after 1986 when the Borough of Maywood expressed strong opposition to any more waste being placed at the MISS. A time-critical removal action was conducted in summer, 1991, when, because of high radiation exposure readings at a home in Lodi, DOE dismantled a portion of the home and took the debris to the MISS. As part of a "non-time critical removal action," DOE began removal of the MISS soil pile in October, 1994. This action was completed in December, 1996. Approximately 35,000 cubic yards of material was shipped by rail to a licensed disposal facility (Envirocare) in Utah. The removal actions in the mid-80's removed contamination from 25 residential properties. To address an additional 31 residential and 6 municipal/governmental properties in September, 1995, DOE issued a final Engineering Evaluation/Cost Analysis for excavation and off-site disposal of contaminated soils and debris. Excavation and off-site disposal began in October, 1995. This removal action was completed in 2001. The USACE completed a time-critical removal action in 2000 to remove contaminated sediment from a drainage swale and a portion of the Lodi Brook. Approximately 400 cubic yards of sediment and other debris were removed. In November, 2001 the USACE began a non-time critical removal action to address contaminated soils impacted by the New Jersey Department of Transportation's roadway improvement program. This action should be completed in 2003.



Radiological Contamination Investigation: The DOE RI report was finalized at the end of 1992. The investigation determined the nature and extent of contamination and will be the basis for recommending the final cleanup strategies at the MISS and all areas at the Site where contamination is above action levels. A final draft feasibility study and proposed plan addressing contamination source areas (groundwater contamination will be addressed in a separate proposed plan) was submitted to EPA in May, 1993. EPA formally entered into dispute with DOE in late June over cleanup levels that DOE had proposed for the site. The dispute was resolved in March, 1994 when EPA and DOE agreed to base the site cleanup criteria on land use. EPA and DOE agreed that if the assumed land use on a particular property changed such that the original exposure assumptions became invalid, DOE would reevaluate that location and make a determination, with EPA, whether further remediation would be necessary. In January, 1998 the USACE submitted a draft feasibility study and proposed plan for remediation of those properties not addressed in the ongoing removal action to EPA for review. This information was presented to the

National Remedy Review Board in March, 1998. Comments have been provided to the USACE for incorporation into the final documents.



Chemical (Non-Rad) Contamination Investigation: In late summer, 1992, with EPA oversight, Stepan Company completed remedial investigation field work to characterize the nature and extent of non-radiological chemical contamination at the Site.

This investigation will lead to cleanup remedies for soil and groundwater. EPA completed the risk assessment for the site in June, 1993. The most significant risk concern is the potential future ingestion of contaminated groundwater (no one is currently drinking contaminated groundwater from the site). Stepan Company's draft RI report was submitted to EPA in March, 1993. To address the significant groundwater contamination at the site, Stepan performed additional work in the summer/fall 1993. This work included an additional sampling round of all monitoring wells (performed in conjunction with DOE) and soil borings to determine possible groundwater contamination source areas. The final draft RI and draft FS were submitted to EPA in November, 1994. Additional limited groundwater sampling was performed in 1996 and submitted to EPA for review in 1997. Based on this data Stepan Company is performing a pilot treatability study for groundwater contamination which began in the fall of 1997 and was completed in fall, 1998. Follow-up groundwater samples were collected in 1999. A Record of Decision for groundwater and soil contamination is expected in 2002.

The USACE has undertaken a separate investigation of groundwater to address the nature and extent of contamination downgradient of the MISS (to the west of the MISS) which may be related to former thorium processing operations. This investigation began in summer 2000. Under the terms of the Federal Facilities Agreement USACE is responsible for addressing those radioactive and non-radioactive contaminants associated with former thorium processing operations and are defined as FUSRAP waste. VOCs and some metals occur in groundwater at MISS and downgradient, the former retention ponds that are located on MISS and Ballod properties have been identified as possible sources for groundwater constituents of concern (COC). Radioactive COCs occurring in soils have not been detected in groundwater except for one well located to the east of the Sears property. There are no known radioactive COCs for groundwater.

Environmental Progress



The removal of contaminated soil from residential and commercial areas by DOE in 1984-1986 to the MISS has greatly reduced the potential for exposure to radioactive materials from the Maywood Chemical Company Site. The storage of these soils caused significant community concern as to the ultimate disposal location, however, the completed removal action addressing the pile has alleviated some concern. The DOE had been planning to perform a soil washing test study at the Maywood site. This would have entailed bringing a pilot scale unit to the Maywood site. Because of community opposition, however, DOE, decided not to go forward with the on-site soil washing test. This is documented in a June 30, 1994 letter from Assistant Secretary Thomas Grumbly to New Jersey Senator Frank Lautenberg. Operational studies of soil washing equipment, using clean soils, began in May 1995 and were conducted in Oak Ridge, Tennessee. In September, 1995, approximately 100 cubic yards of contaminated soil from the pile were shipped to Oak Ridge for testing. The tests began in late October and were completed in mid-November.

Removal of the pile was completed in December, 1996. In September, 1995, DOE issued a final Engineering Evaluation/Cost Analysis for excavation and off-site disposal of contaminated soils and debris from the remaining residential and municipal/governmental properties. The removal action has been completed. The USACE completed a time-critical removal action in 2000 to remove contaminated sediment from a drainage swale and a portion of the Lodi Brook. Approximately 400 cubic yards of sediment and other debris were removed.

The USACE conducted a test of two separate technologies at the Maywood Site in summer/fall 2000. A gravel separation system which screens out soil particles larger than 3/8-inch was tested as was a radiological sorting system which screens soils based on their radiological content. Results are expected to be provided to EPA in 2002.

Site Repository



Maywood Public Library, 459 Maywood Avenue, Maywood, New Jersey, 07607

Maywood FUSRAP Public Information Center, 75A West Pleasant Avenue, Maywood, NJ 07607